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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/518,849	01/23/2006	Michael Hinz	DE 020165	1296
65913	7590	05/30/2007		
NXP, B.V. NXP INTELLECTUAL PROPERTY DEPARTMENT M/S41-SJ 1109 MCKAY DRIVE SAN JOSE, CA 95131			EXAMINER LEDYNH, BOT L	
			ART UNIT 2862	PAPER NUMBER
			MAIL DATE 05/30/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/518,849

Applicant(s)

HINZ ET AL.

Examiner

Bot LeDinh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2 and 4 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Umemoto et al (5982171). See Figs.3 and 23; 10A and 10D matching with each other; 10B and 10C matching with each other; both groups being substantially different in phases, i.e., opposite phases. See col.9, lines 13-15.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2, and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eck et al (5038130) in view of Umemoto et al (5982171). Eck et al discloses substantially the same invention as claimed (first (40) and fourth (42) bridge arms, second (48) and third (46) arms – or vice versa 48, 46 and 40, 42, etc.; see Figs.1-9b), except that the encoder 12 is not magnetized. Umemoto et al (5982171) discloses the use of a magnetized encoder having alternative north and south poles to replace a wheel made of magnetic material. See the use to that effect and the implied functional

equivalence between 52 and 52A in Figs.(19, 22) and (23, 25). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Eck et al by replacing the wheel 12 with a magnetized encoder having alternative north and south poles as taught by Umemoto et al (5982171) in order to determine the position, the angle and/or the rotational speed. Another motivation is the interchangeable equivalent systems: a system having a wheel made of magnetic material together with a magnet and system having a magnetized wheel as taught in Umemoto et al (5982171), Figs(19, 22) and (23, 25).

Claims 3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eck et al (5038130) in view of Umemoto et al (5982171) as applied to claims 1-2 and 4 above, and further in view of Seefeldt (5744950) or Sampey (5877705). Eck et al (5038130) in view of Umemoto et al (5982171) disclose substantially the same invention as claimed, except for (1) the two ohmic resistance elements that are essentially constant being designed with a magnetic screening, and (2) a frequency evaluation device coupling at one input with the signal output terminals of the Wheatstone bridge configuration and, at one output, emitting a signal which constitutes a measure of the frequency of a signal emitted by the magnetoresistive sensor. As to (1), either Seefeldt (5744950) or Sampey (5877705) discloses that fixed resistors in Wheatstone bridges can be designed by applying magnetic shield material onto MR elements. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Eck et al (5038130) in view of Umemoto et al (5982171) by using the MR material to make the four bridge arms 40, 42, 46 and 48, then applying magnetic shielding material (i.e.,

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screening) onto arms 46 and 48 to make these two arms into fixed resistors. The motivation is to make the two shielded fixed resistors (or arms) into two reference resistors or arms (See Seefeldt (5744950), col.3 lines 13-23; Sampey (5877705), col.7 lines 57-67 and col.8 lines 1-12). As to (2), it is well known in the art of magnetic sensors that a frequency evaluation device is provided and coupled at one input with the signal output terminals of the Wheatstone bridge configuration and, at one output, emitting a signal which constitutes a measure of the frequency of a signal emitted by the magnetoresistive sensor in order to evaluate the frequencies processed in the angle or speed sensor. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Eck et al (5038130) in view of Umemoto et al (5982171) by providing a frequency evaluation device coupling at one input with the signal output terminals of the Wheatstone bridge configuration and, at one output, emitting a signal which constitutes a measure of the frequency of a signal emitted by the magnetoresistive sensor in order to evaluate the frequencies processed in the angle or speed sensor.

Although specific columns, figures, reference numerals, lines of the reference(s), etc. have been referred to, Applicant should consider the entire applied prior art reference(s).

Applicant's arguments with respect to claims 1-5 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Bot LeDinh whose telephone number is 5712722231. The Examiner normally does not work on Fridays. The examiner can normally be reached on Maxiflex.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on 5712722180. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BL/ 2007



Bot LeDinh, J.D., Ph.D., D.A.  
Primary Examiner